

Word Problems
Grade level: 2nd grade
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Introduction:

This lesson will introduce the students to solving word problems through hands on math activities.

Behavior Objective:

Students will learn to add and subtract using their reasoning and calculating skills, by solving word problems. Students will read word problems related to prior knowledge and experience, which will be animals raised on the Navajo reservation by their families. Students will learn to add when the words such as “in all” or “all together” are used. They will learn to subtract when words such as “how many are left” or “how many more are needed”, are used.

1. Given 6 addition and subtraction word problems, students will solve the word problems five out of 6 times with the operations of addition and subtraction.
2. Given 6 word problems, students will be able to correctly solve 5 problems using paper and pencil within 30 minutes.

State Standards:

Students develop number sense and use numbers and number relationships to acquire basic facts to solve a wide variety of real-world problems and determine the reasonableness of results.

Anticipatory Set:

“Today, we will do something fun, but at the same time we will be learning to work out word problems. First, of all, let me ask you, how many of you have animals at your home?” Have students raise their hands to answer. List each animal mentioned on the board. Next, ask them, “Who watches or takes care of these animals?” List the people who take care of the animals at home. “We will use some of these animals and people that we have listed in our math lesson.”

Teacher Input:

Pass out the laminated math mats previously made by the students (pictures of a hogan, sheep corral, horse corral, and cattle corral that students have colored and put their names on). Before putting the students into two groups, the two teachers will explain what they will be doing. “We will use these math mats to learn how to solve math problems.”

Teacher 1: “In order to learn to do these word problems everyone needs to listen very carefully so that you can understand what I’m saying.” “Eyes on me and listen.” Model: Read the first word problem and then work out the problem using the little toy animals. Write the number sentence that goes with it and the answer.

Teacher 2: Walk around the room to make sure all eyes are on Teacher 1 and that the students are listening.

Teacher 1: Guided Practice: Do another problem. This time have the students participate by raising their hands to give input. For example, have a student read the problem and have another say whether they need to add or subtract. Another student can write the number sentence on the

board, and another can add the numbers together or subtract the numbers. Next, have the students count off 1, 2, 1, 2, and divide the students into two groups.
Teacher 1 and Teacher 2: Both teachers will do two more examples with the student participating.

Check for comprehension:

Ask questions and observe the students while solving the problems.

Guided/Independent Practice:

Each teacher will pass out the work sheet (attached) of 6 more word problems that the students can work out independently. Pass out the miniature animals and have the students use them to solve their problems. Remind the students to refer to the words that are used for adding and subtracting. Walk around the classroom to see if the students comprehend the process of solving word problems. Help students who need help, and praise and compliment those who are getting it.

Closure:

“Thank you for being such good listeners and for your input in this math lesson. You all did a great job in working out these word problems using animals. We will practice more word problems tomorrow and later in the week we will try some word problems with double digit numerals.”

Assessment:

“Please complete the 6 word problems on your work sheet, write your name on it, and turn it in to me.”

Materials:

- Small rubber toy animals to be used as manipulative (cows, horses, sheep, ducks, and rabbits)
- Math mats (previously constructed by the students and laminated)
- Word problems on strips of paper for illustrating and modeling
- Word problems on a sheet of paper (6 problems)
- Pencils

Modifications for students with disabilities:

1. Repeat instruction
2. Have student with disabilities work with peers that can help them
3. Have students complete fewer problems
4. Read problems again and at a slower pace
5. Give clues and prompts
6. Have addition and subtraction words posted
7. Highlight the words on their work sheet

Technology:

Students may wish to practice word problems on the computer using software related to math word problems.

Math Word Problems:

Directions: Read the problems below. Use the toy animals to work out each problem, and the write out the number sentence and your answer. Refer to the word chart for adding and subtracting.

1. Uncle (shi da'i) has 5 (ashdla') horses. If grandpa (shi cheii) gives him 6 (tsosts'id) more, how many horses will we have?
2. 8 (tseebii) sheep are grazing on the hill, 4 (dii') sheep went back into the corral. How many are still grazing on the hill?
3. There are 7 (tsosts'id) cows in the corral. I chased 3 (taa') more in. How many more are in the corral?
4. There are 8 (tseebii) horses near the Hogan. 7 (tsosts'id) run to the barn where grandpa (shi cheii) has put out some hay. How many cows are by the Hogan now?
5. There are 9 (nahast'ei) sheep walking or standing in the corral, but 5 (ashdla') of them decide to lie down and take a nap. How many sheep are left standing or walking around?
6. My brother (shi nai) is riding a horse and chasing 6 (hastaa) more to the spring for water. How many horses in all are going to the spring for water?